

DOCUMENT RESUME

ED 041 462

EM 008 148

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TITLE Individualized Prescribed Instruction: A Critique.
INSTITUTION Missouri Univ., Columbia. Coll. of Education.
PUB DATE 70
NOTE 16p.

EDRS PRICE EDRS Price MF-\$0.25 HC-\$0.90
DESCRIPTORS Curriculum Development, Individualized Curriculum,
*Individualized Instruction, *Program Evaluation
IDENTIFIERS Individually Prescribed Instruction, IPI

ABSTRACT

The Learning Research and Development Center at the University of Pittsburgh has adopted instructional material in elementary mathematics and reading that are designed for instructing the individual pupil. The program is known as Individually Prescribed Instruction (IPI) and has been widely acclaimed as an important breakthrough in education. This monograph evaluates the IPI program, both from the standpoint of the student and of the teacher. It lays down guidelines for administrators who are considering using the program in their school. (JY)

EDUCATION MONOGRAPH

ED041462

EM008 148

**Individual Described
Instruction Critique**

**Learning
Resource
Center**

University Extension Division Cooperating

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Individualized Prescribed Instruction—A Critique

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INDIVIDUALIZED PRESCRIBED INSTRUCTION— A CRITIQUE

by Carl C. Fehrle

INTRODUCTION

As educators we have been striving constantly to develop stronger educational programs to assist the individual learner. The Learning Research and Development Center at the University of Pittsburgh has adopted instructional materials in elementary mathematics and reading that are designed for instructing the individual pupil.

This program, known as Individually Prescribed Instruction, was developed by Drs. Glaser, Bolvin, and Lindvall in cooperation with the University of Pittsburgh and the Baldwin-Whitehall Public School system near Pittsburgh.

In their discussion of this program, Beck and Bolvin (1:130) state:

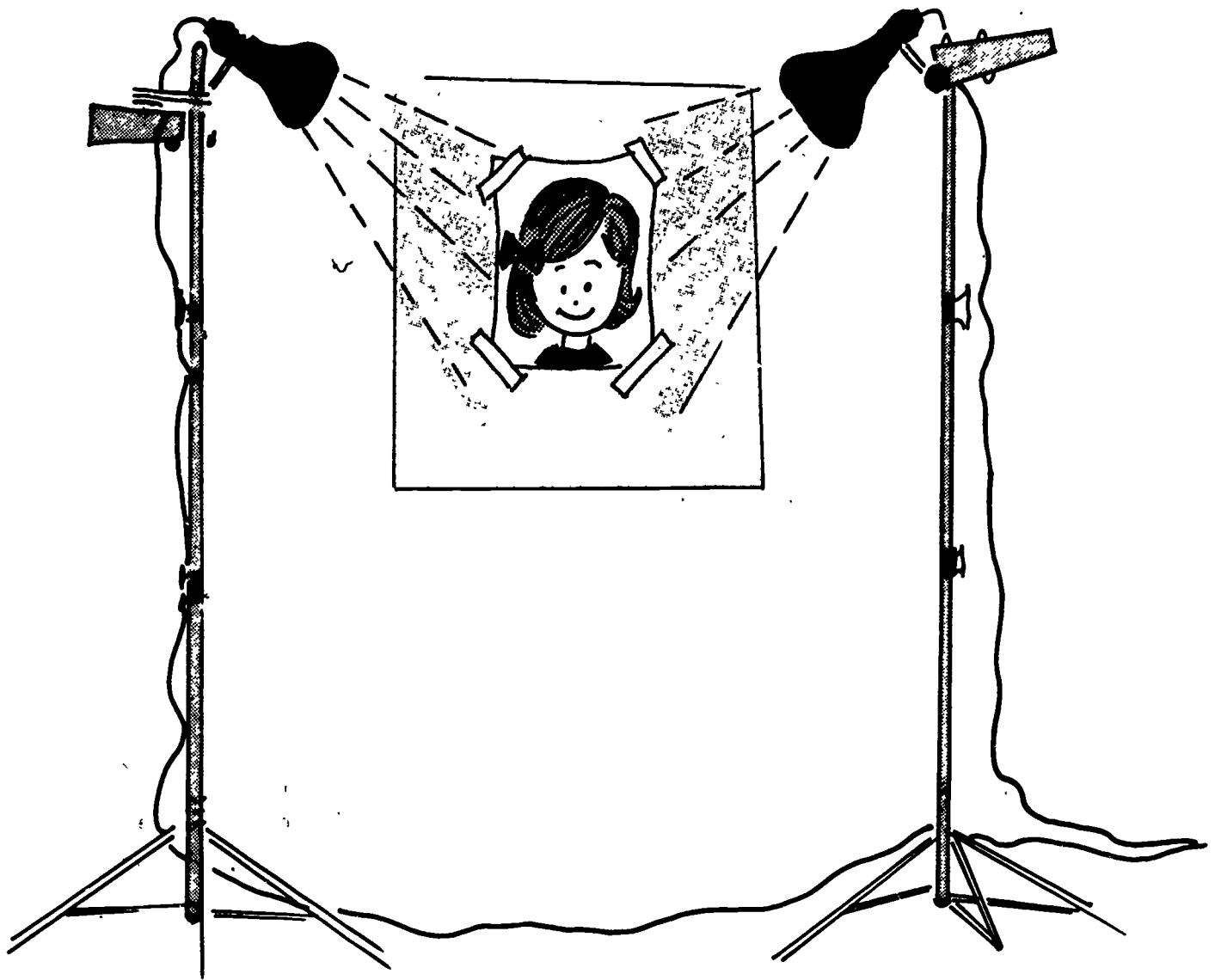
The IPI model for individualization consists of the following components: 1) sequentially established curricular objectives in each area stated in behavioral terms, 2) procedures and processes for diagnosis of student achievement in terms of the objectives of the curriculum, 3) materials for individualizing learning to provide a variety of paths for attainment of mastery of any given objective, 4) a system for individually prescribing the learning tasks that the student is ready to undertake, 5) the organization and management of individualization as it relates to the total school environment, and 6) strategies for continuous evaluation and feedback of information for teacher decision-making.

II EVALUATION OF IPI

This revolution has been closely watched by educators as it has unfolded in its experimental stages in approximately 100 schools across the nation. The following evaluations were made by leading educators in prominent positions.

Former Secretary of Health, Education, and Welfare, John W. Gardner (5:1) predicted that within 25 years,

"... virtually all instruction in the schools will be individualized instruction."

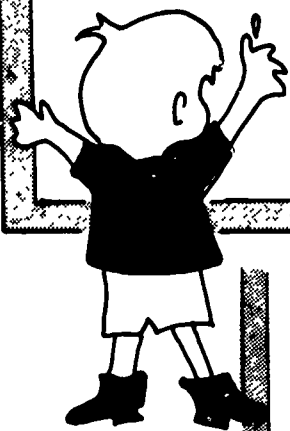


Former U.S. Commissioner of Education Harold Howe II (6:35) told the 1968 annual conference of the American Association of School Administrators:

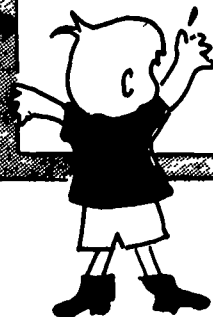
The results of IPI are impressive: many students are performing two to four grade levels above the norm for their age, and the atmosphere of self-directed learning appears to boost attendance and virtually eliminate discipline problems. Though final returns on IPI are not yet in, this technique appears to offer real hope for success with culturally deprived youngsters as well as for improving the education of average and gifted students.



4th level



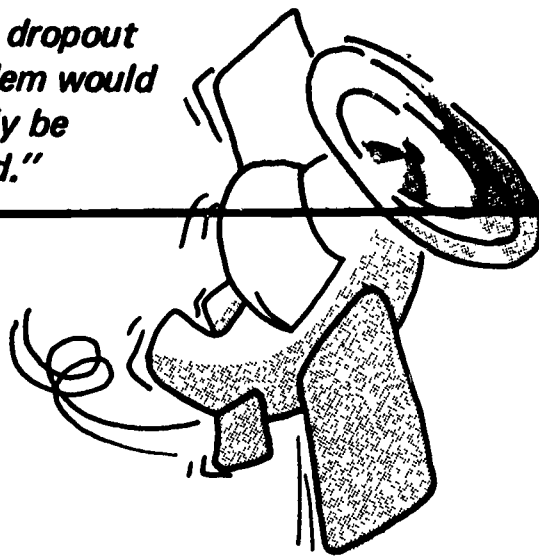
3rd level



2nd level

Dr. Richard L. Bright (2:12), director of research for the U.S. Office of Education, has claimed:

"The dropout problem would largely be licked."

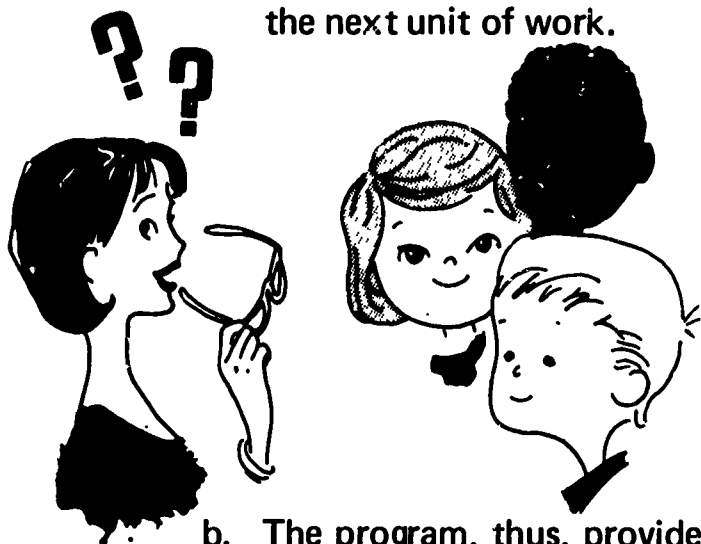


After reviewing the literature on Individually Prescribed Instruction and observing the program in two of the demonstration centers, this writer, realizing that the program is still in its experimental and developmental stages, presents the following opinions:

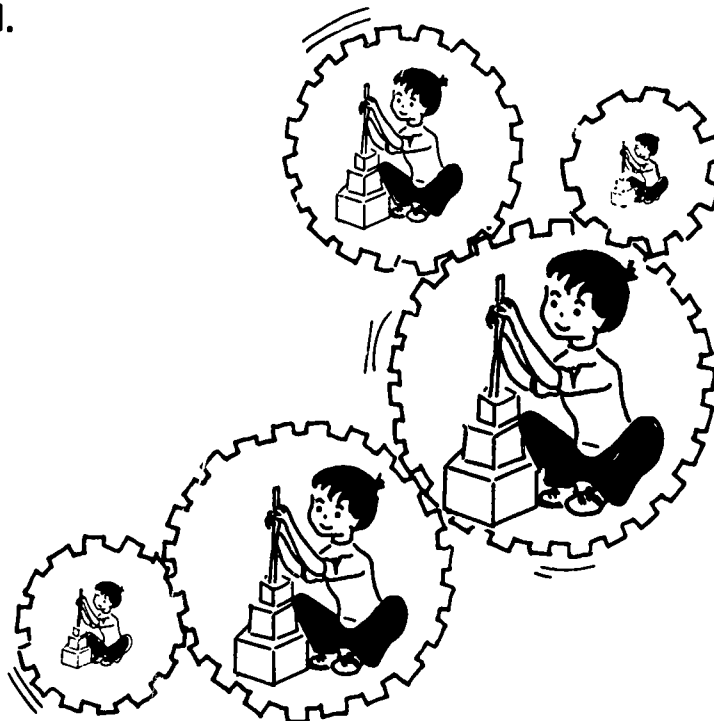
A. Strengths of IPI

1. For the student

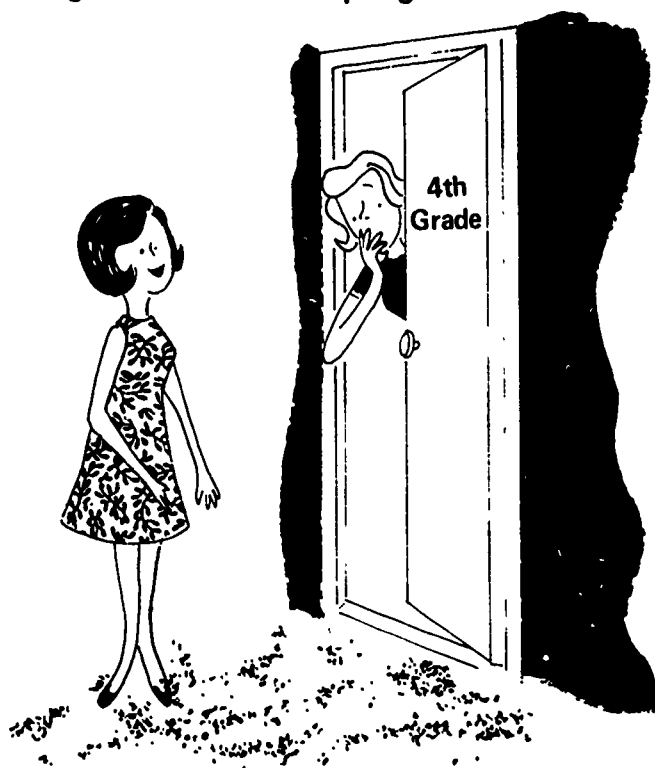
- a. The program provides diagnosis through testing before the student is assigned work or is allowed to progress to the next unit of work.



- b. The program, thus, provides assignments at the working level of each child's ability.
- c. The program allows the student to compete only with himself. Since all are working at various levels, the slower student is not uncomfortable.
- d. The program permits the child to accelerate without skipping the skills he has not mastered.
- e. The program prevents the child's repeating skills he has mastered.



- f. The program develops independence and confidence within the student.
 - g. The program allows a student, who returns to school after an absence, to continue his work without the frustration of "catching up."
 - h. The program makes provisions for all students to be engaged in doing prescribed work and little time is spent waiting for additional directions.
 - i. The program shows some evidence of fewer behavioral problems than are found in traditional programs.
2. For the teacher
- a. The program allows the teacher to be actively engaged in helping students.
 - b. The program permits the teacher to know each student better and develop greater rapport.
 - c. The program removes the need for the teacher to make general daily lesson plans in the academic areas of reading and mathematics. However, specific plans are made for each individual student when the teacher writes prescriptions.
 - d. The program provides additional clerical assistance (aides).
 - e. The program permits the teachers freedom, without criticism from colleagues, to cross grade lines when preparing the individual's program.



If you use 4th grade books with your 3rd graders this year, what will I use next year?

3. Materials

- a. The grade level is less apparent.
- b. The child, under the teacher's direction, builds his own textbook to meet his educational needs.

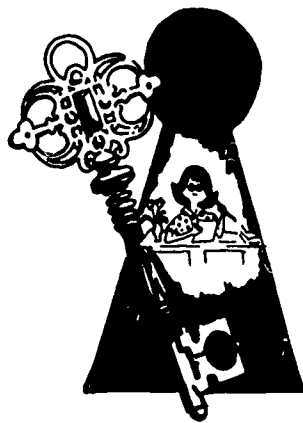
B. Needs of IPI

1. For the student



Wonderful!
Now you get to do worksheet 2, 7, & 10

- a. There is a need to provide additional experiences for student interaction and for them to become more actively involved in creative learning activities.
- b. There are indications that the program does not hold the student to high standards of neatness as too often he merely completes worksheets.
- c. There are indications that there are individual prescriptions for progress, but the goals for all are the same.
- d. There is indication that too often the only reward the student receives for achievement is another test or worksheet.
- e. There is indication that the slow child needs much background and training before starting in IPI material.
- f. There is a need to schedule a planning period so that music, art, and physical education classes do not run concurrently while IPI teachers are engaged in grade-wide planning.
- g. There is little opportunity to readjust the daily schedule when aides' time must be definitely scheduled in advance.
- h. There are indications that, as in other organizational plans, the program is only as good as the teacher.



The key to the program is the teacher.

2. For the teacher

- a. There is a need for more teachers to accept the fact that children are to produce according to ability rather than expectancy of assigned grade level.
- b. There is a need to design ways in which teachers can enjoy the activities of the children in addition to being checkers and writers of prescriptions.
- c. There are indications that teachers need more time to encourage children to "think" through solutions rather than quickly giving them the answer.
- d. There is a special need for special teacher training and whole-hearted support.

3. Materials

- a. The materials need more color, variety and depth.
- b. The worksheets need to be designed around open-ended thinking situations.
- c. The program needs additional educational media to provide profitable activities.



A wealth of learning is gained through group activities.

A. QUESTIONS FOR EACH ADMINISTRATOR TO CONSIDER

1. Can you budget the additional cost?

(Recent information (5:3) states that the IPI program costs from \$37 to \$115 more per pupil.)

Allow for the following in your budget: (4:3-5)

- a. The majority of your teachers to visit the IPI demonstration centers.
- b. The principal to observe and take special training before training the teachers.
- c. A summer training program (50-75 hours) for all prospective IPI teachers.
- d. The purchase of IPI teacher training materials at \$15 per set.
- e. The purchase of student IPI mathematics materials - approximately \$12 per child.
- f. Teacher-aides at a ratio of one for each seventy-five pupils working in IPI mathematics.
- g. Adequate simultaneous planning time for all teachers in each grade level.
- h. A room and extra shelving for IPI materials and educational media.



2. Can you provide for the in-service training after getting the necessary commitments from teachers and administrators?

- a. Administrators must be retrained.
- b. Teachers and administrators must receive continuous training on individualization.

3. Will you be able to restrain the thinking of the patrons? Will your community easily adjust to:

- a. Seeing twenty-five youngsters doing somewhat different assignments at the same time in the same classroom?
- b. Receiving no grades on the grade cards for mathematics and reading? (In those subject areas, notations are made when the unit is completed.)
- c. Seeing students have freedom to move about the room and travel freely to the resource center?

4. Are you aware that the program depends heavily on testing?

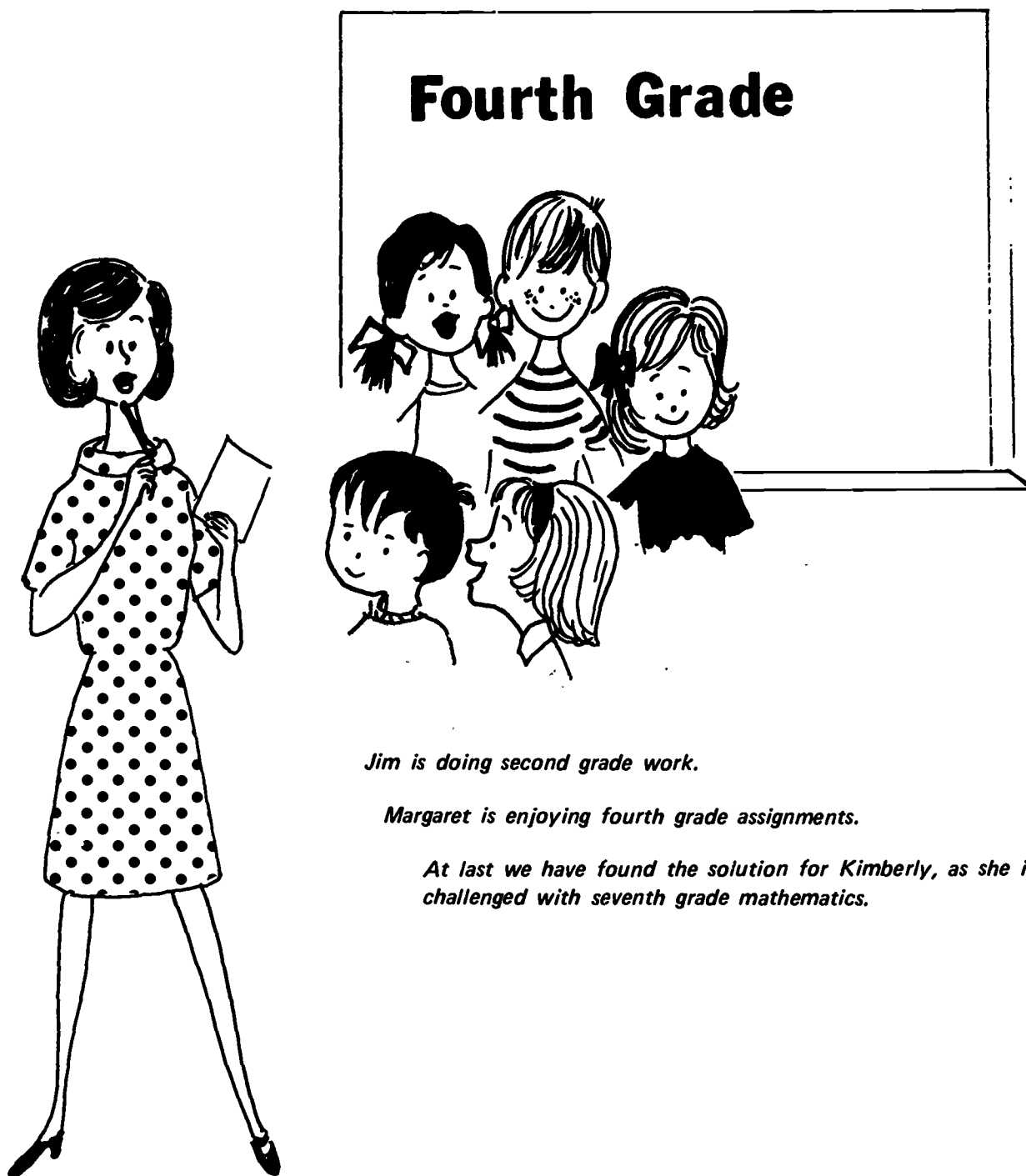
The tests are:

- a. IPI Placement Test
- b. Pre-test
- c. Curriculum-embedded test
- d. Post-test

5. Can you continue the program in your junior and senior high schools?

B. IN YOUR SCHOOL, IPI CAN BE EXPECTED TO:

- 1. Establish a program which makes provision for the wide range of abilities that exist in any classroom.

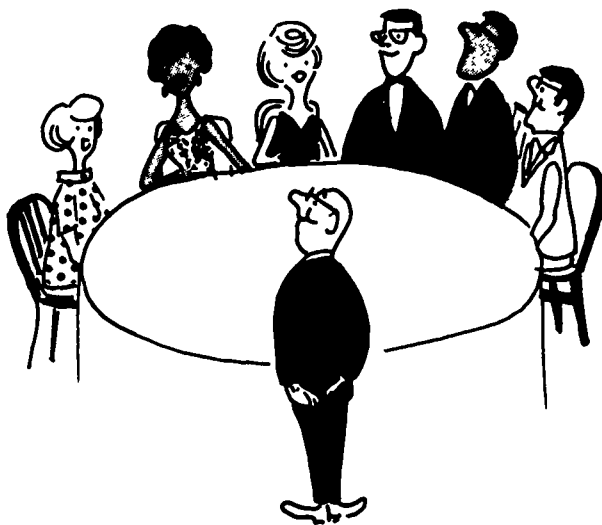


2. Permit students to be constantly acquiring new knowledge rather than often reviewing material they have already mastered.
3. Decrease the number of behavioral problems, as the students are actively engaged in activities on their own interest and ability level.



Hurrah!

4. Develop a self-directed student body.
5. Improve communication between the principal and staff as the program depends upon the administrator as the instructional leader and helps the teachers refine the system and solve problems (5:20).



If I have to WORK with you, I might as well be one of the team.

CONCLUSIONS

IPI is an organizational program which all modern educators can well afford to watch with an open mind and critical eye. Though it is in the early experimental stages, the idea appears sound and the results rewarding. Students are at last engaged in work they can do and have not done before. IPI does more than give lip service to the directive of "accept the child where he is and take him as far as he can go."



"this program is designed for me"

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